

2ND EUROPEAN PHYSICS CONGRESS

May 20-21, 2019 | Berlin, Germany

Theory of gyroscopic effects

Ryspek Usubamatov

Razzakov Kyrgyz State Technical University, Kyrgyzstan

An inertial gyroscope in engineering manifests several unexplainable properties which physical nature is still unknown in classical mechanics. The new study demonstrates that the origin of the gyroscopic effects is more complex than presented in known publications. Recent investigations in the area of the gyroscope theory demonstrated that the gyroscopic effects manifest the eight inertial resistance and precession torques acting around axes. The first group of torques is generated by the centrifugal and Coriolis forces and the second one by the common inertial forces and the change in the angular momentum. The action of these torques can be changed by several reasons. For example, the blocking of the gyroscope motion around one axis deactivates the resistance torques. In such case, the

gyroscope turns to dawn under the action only of the gravity force. These phenomena are the manifestation of the unknown property of a physical matter that represents the new challenge for the researchers of classical mechanics. Newton's laws are justified for the simple action, but for complex one should be formulated, validated and written new physical laws. For the example, the rotation of the mass around two axes demonstrates the disappearance of the inertial forces that contradicts the principles of physics. This presentation demonstrates the mathematical model and practical validation of the deactivation of the inertial forces for the rotating object around two axes. Inertial gyroscopes discover new unknown properties that present the challenge for the researchers.

ryspek0701@yahoo.com